

WHAT IS CLAIMED IS:

1           1.    A wine fermentation device for fermenting wine, and skins, seeds and stems  
2    which form a cap, which comprises:

3                   a tank having cylindrical walls, an axis and a bottom;

4                   at least one drain at or near said tank bottom; and

5                   at least one impeller, each impeller having a plurality of blades to radially and  
6    axially move said cap in said tank during fermentation and to blend said cap with liquid to  
7    permit draining of said cap (or pomace) through said drain.

1           2.    A wine fermentation device as set forth in Claim 1 including at least one  
2    interior baffle extending from said cylindrical tank walls toward said axis.

1           3.    A wine fermentation device as set forth in Claim 2 including three said interior  
2    baffles.

1           4.    A wine fermentation device as set forth in Claim 1 having two said impellers,  
2    one near said bottom and one spaced axially therefrom.

1           5.    A wine fermentation device as set forth in Claim 1 wherein each said impeller  
2    has three blades.

1           6.     A wine fermentation device as set forth in Claim 1 wherein each said blade  
2     has a 45° pitch.

1           7.     A wine fermentation device as set forth in Claim 1 wherein said tank bottom  
2     is not perpendicular to said axis but is sloped in relation thereto.

1           8.     A wine fermentation device as set forth in Claim 1 including a temperature  
2     control jacket to control temperature of said wine in said tank and a temperature gauge.

1           9.     A wine fermentation device as set forth in Claim 1 including a shaft for said  
2     impeller axially aligned in said tank and a motor to drive said shaft.

1           10.    A wine fermentation device as set forth in Claim 1 wherein each said drain  
2     includes a valve.

1           11.    A wine fermentation device as set forth in Claim 1 wherein said tank includes  
2     a top to form a closed vessel.

1           12.    A process for wine cap management for fermenting wine and skins, seeds and  
2     stems which forms a cap, which process comprises:

3                 fermenting said wine and said cap in a tank having cylindrical walls, an axis,  
4     and a bottom;

5 moving said wine and said cap radially and axially by periodically rotating an  
6 impeller having an axial shaft within said cylindrical tank; and  
7 assisting axial flow of said wine with at least one baffle extending from said  
8 cylindrical walls toward said axis.

1 13. A process for wine cap management as set forth in Claim 12 which includes  
2 the additional steps of adding yeast and sugar to said fermenting wine or must to promote  
3 fermentation.

1 14. A process of wine cap management as set forth in Claim 12 which includes the  
2 additional step of controlling the temperature of said wine in said tank through a  
3 temperature jacket on the walls of said cylindrical tank or on said at least one baffle.

1 15. A process of wine cap management as set forth in Claim 12 wherein said  
2 impeller shaft is driven by a motor.

1 16. A process of wine cap management as set forth in Claim 12 including two said  
2 impellers extending from said axial shaft.

1 17. A wine pomace removal process for wine and skins, seeds and stems forming  
2 a cap fermented in a tank having cylindrical walls, an axis, and a bottom, which process  
3 comprises:

4 draining a majority of said wine from said tank;  
5 agitating and blending said cap with liquid within said tank to create a pomace  
6 slurry; and  
7 draining off said pomace slurry through a drain at or near said bottom of said  
8 tank.

1 18. A wine pomace removal process as set forth in Claim 17 wherein said drain  
2 includes a valve.

3 19. A wine pomace removal process as set forth in Claim 17 wherein said agitating  
4 and blending step is accomplished through an impeller having a plurality of blades which are  
5 rotated by an axial shaft driven by a motor.

6 20. A wine pomace removal process as set forth in Claim 19 including two said  
7 impellers, one located near said tank bottom to agitate and blend said cap.

1 21. A wine pomace removal process as set forth in Claim 17 wherein said bottom  
2 of said tank is sloped with respect to said axis of said tank.